

NOTES ON GEOGRAPHIC DISTRIBUTION

Amphibia, Anura, Bufonidae, *Melanophryniscus dorsalis*: Distribution extension in the State of Rio Grande do Sul, Brazil.

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The genus *Melanophryniscus* Gallardo, 1961 has currently 20 recognized species (Frost 2006; Di Bernardo et al. 2006) and its distribution is restricted to South America (17° and 38° S) in the central and northern region of Argentina, Paraguay, Uruguay, southern Bolivia, and southern Brazil (from Rio Grande do Sul to Minas Gerais) between 0 and 2,400 m of altitude (IUCN 2006).

The occurrence of *Melanophryniscus dorsalis* is known for a narrow strip of land on the northern coast of the State of Rio Grande do Sul (RS) and on the southern coast of the State of Santa Catarina (SC) (Cruz and Caramaschi 2003; Garcia and Vinciprova 2003), from 0 to 20 m of altitude (IUCN 2006). Several researchers have been calling attention to the conservation status of this species, which is classified as vulnerable in RS (Fontana et al. 2003), as well in the rest of Brazil (MMA 2003; Garcia 2004).

There are two reasons that sustain the argument that is under risk of extinction. First, there is scarce information regarding its occurrence in RS (Garcia and Vinciprova 2003), as the latest records for this species in northern beaches of the state (Atlântida, Cidreira, Torres and Tramandaí) are more than 25 years old (Braun and Braun 1980). Fortunately, however, some individuals

were collected in 2002 (Kwet et al. 2005), and this has led to the re-discovery of this species in RS. Second, the species has a very restricted and fragmented distribution (Garcia and Vinciprova 2003; Silvano and Segalla 2005), with a total area of less than 20,000 km² and an occupation area of less than 2,000 km² (Garcia 2004). The present study records the occurrence of *M. dorsalis* on a continental island in the estuarine region of Patos Lagoon, thus enlarging the distribution range of this species and suggesting a new view on its current conservation status.

We collected one individual of *M. dorsalis* (Figure 1) (SVL = 22 mm) at 22:00 h, on December 8th, 2006, on Marinheiros Island (31°58'–32°02' S, 52°05'–52°12' W: Datum WGS 84), Patos Lagoon estuary, municipality of Rio Grande, RS (Figure 2).



Figure 1. Specimen of *Melanophryniscus dorsalis* collected in the city of Rio Grande, State of Rio Grande do Sul. A) lateral view; B) ventral view. Photo: F. M. Quintela

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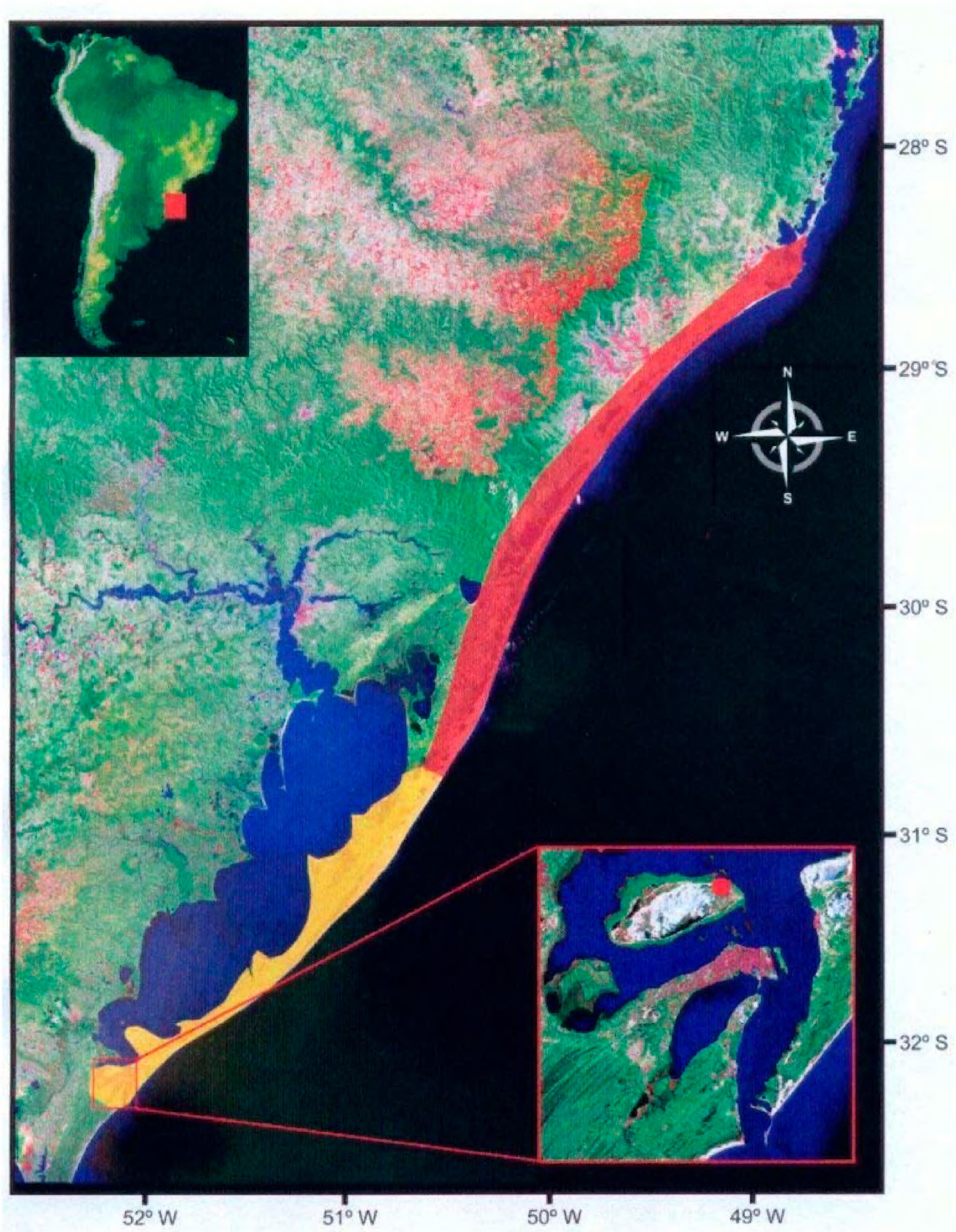


Figure 2. Geographical distribution of *Melanophryniscus dorsalis* according to Garcia and Vinciprova (2003) (red area); new distribution proposed in the present study (yellow area), and Marinheiros Island showing where the species was found (detail).

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The island has a perimeter of approximately 27 km and its closest point to the continent is only 1.6 km away. Its coastal area is mainly used for agricultural activities, whereas its central region is less impacted by anthropogenic activities and is comprised of extensive sand dunes, lakes and fields. The sample collection was authorized by the Brazilian Institute of Renewable Natural Resources (Process number 240/06). The collected individual was found in an open wild field near cultivations and a bamboo grove. We deposited the specimen at the herpetological collection of the Museu de Ciências Naturais da Fundação Zoobotânica do Rio Grande do Sul under the number MCN 13,915. Aside from being the first record of *M. dorsalis* in this region, our current record set a new austral boundary for the species and stretches its distribution by approximately 285 km.

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Literature cited

Braun, P. C. and C. A. S. Braun. 1980. Lista prévia dos anfíbios do Estado do Rio Grande do Sul, Brasil. *Iheringia (Zoologia)* 56: 121-146.

Cruz, C. A. G. and U. Caramaschi. 2003. Taxonomic status of *Melanophryniscus stelzneri dorsalis* (Mertens, 1933) and *Melanophryniscus stelzneri fulvoguttatus* (Mertens, 1937) (Amphibia, Anura, Bufonidae). *Boletim do Museu Nacional, n. s. (Zoologia)* 500: 1-11.

Di-Bernardo, M., R. Maneyro, and H. Grillo. 2006. A new species of *Melanophryniscus* (Anura: Bufonidae) from Rio Grande do Sul, southern Brazil. *Journal of Herpetology* 40(2): 261–266.

Fontana, C. S., G. A. Bencke, and R. E. Reis (ed.). 2003. Livro vermelho da fauna ameaçada de extinção no Rio Grande do Sul. Porto Alegre, Edipucrs. 632 p.

Although several studies have been carried out in the last few years in the coastal area of the southernmost region of Brazil (Loebmann and Figueiredo 2004; Loebmann and Vieira 2005; Loebmann 2005), this species had not yet been found there and, therefore, was considered very rare in the coastal plain of RS. The present report of this species suggests a better scenario regarding the conservation status of *M. dorsalis*. Its occurrence on Marinheiros Island suggests that isolated populations occur along the coast of RS, which increases by 3,350 km² the estimation of its total area beyond the previous 7,612 km² estimate (IUCN 2006) (Figure 2). This assertion is based on the spatial homogeneity in altitude and habitats found in the coastal *restinga* of Patos Lagoon (between the cities of São José do Norte and Tramandaí), where there are no clear geographical barriers to refrain the dispersion of this species.

Frost, D. R. 2006. Amphibian Species of the World: an Online Reference. Version 4 (17 August 2006). Electronic database accessible at <http://research.amnh.org/herpetology/amphibia/index.php>. American Museum of Natural History, New York, USA. Captured on 18 December 2006.

Garcia, P. 2004. *Melanophryniscus dorsalis*. In: IUCN 2006. 2006 IUCN Red List of Threatened Species. Electronic Database accessible at <http://www.iucnredlist.org>. Captured on 18 December 2006.

Garcia, P. C. A. and G. Vinciprova. 2003. Anfíbios, p.147-164 In: Livro vermelho da fauna ameaçada de extinção no Rio Grande do Sul. Porto Alegre, Edipucrs. 632 p.

IUCN, Conservation International, and NatureServe. 2006. Global Amphibian Assessment. Electronic database accessible at <http://www.globalamphibians.org>. Captured on 16 December 2006.

Kwet, A., R. Maneyro, A. Zillikens, and D. Mebs. 2005. Advertisement calls of *Melanophryniscus dorsalis* (Mertens, 1933) and *M. montevidensis* (Philippi, 1902), two parapatric species from southern Brazil and Uruguay, with comments on morphological variation in the *Melanophryniscus stelzneri*

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- group (Anura: Bufonidae). *Salamandra* 41 (1/2): 3-20.
- Loebmann, D. 2005. Guia Ilustrado: Os anfíbios da região costeira do extremo sul do Brasil. Pelotas: Ed. USEB, 2005. 76 p.
- Loebmann, D. and M. R. C. Figueiredo. 2004. Lista dos anuros da área costeira do município de Rio Grande, Rio Grande do Sul, Brasil. *Comunicações do Museu de Ciências da PUCRS (Zoologia)* 17(2): 91-96.
- Loebmann, D. and J. P. Vieira. 2005. Relação dos anfíbios do Parque Nacional da Lagoa do Peixe, RS, Brasil. *Revista Brasileira de Zoologia* 22(2): 339-341.
- MMA. 2003. Lista Nacional das Espécies da Fauna Brasileira Ameaçadas de Extinção. Electronic Database accessible at <http://www.mma.gov.br/port/sbf/fauna/index.cfm>. Captured on 15 December 2006.
- Silvano, D. L. and M. V. Segalla. 2005. Conservation of Brazilian Amphibians. *Conservation Biology* 19(3): 653-658.
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